

Magtration® World

magLEAD 6gC / 12gC

Magnetic beads are widely used in molecular biology because of their capacity to specifically and quantitatively bind nucleic acids, their straightforward handling and their unlimited scalability. PSS has developed the unique Magtration (magnetic filtration) technology to optimally separate magnetic beads in a fully automated workflow.

The MagLEAD 6gC and magLEAD 12gC instruments are based on Magtration technology and provide:

- Fast extraction of nucleic acids: 25 min per run
- Processing of blood, serum, plasma, urine, CSF, and swabs
- One protocol/reagent that fits to all sample types
- CE-IVD certification of both instrument and reagent
- Flexible loading of 1-6 or 1-12 samples
- A starting volume of 200, 400, or 1000 µL
- Pre-filled consumables to minimize errors

magLEAD 6gC



magLEAD 12gC



Unique Magtration Technology

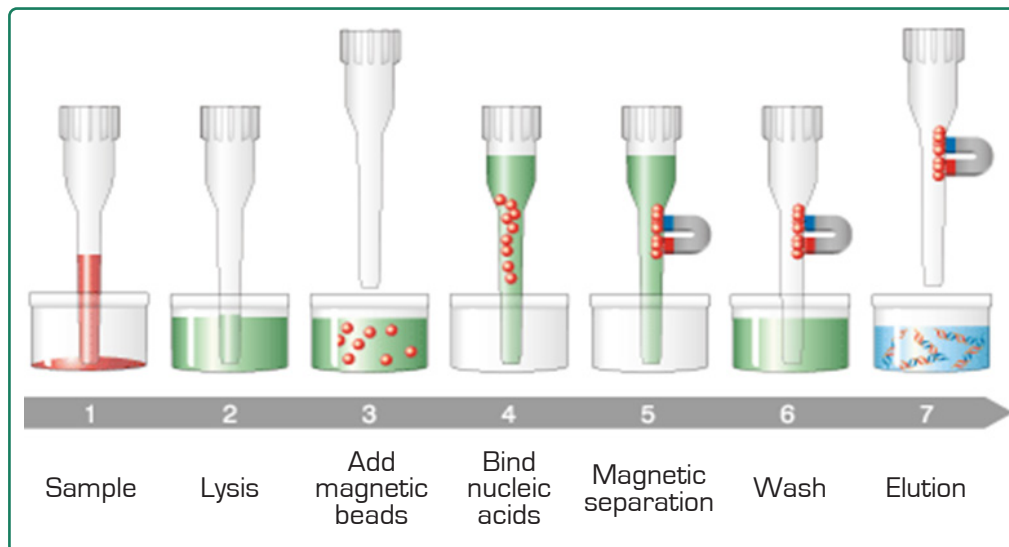


Fig. 1: Schematic view of the separation steps in Magtration technology.

Inside the magLEAD 6gC and magLEAD 12gC instruments, samples are first lysed by protease digest in the presence of chaotropic agents [1,2]. Addition of alcohol allows binding to the magnetic beads [3,4]. The unique Magtration technology ensures efficient separation of magnetic beads, which are immobilized on the side of the pipet tips, while lysis and wash buffers are removed [5,6]. In the elution step, nucleic acids are released from the magnetic beads and transferred to a fresh tube. All steps are performed in a single tip per sample, minimizing cross-contamination. Waste and used tips are safely disposed. This unique separation procedure ensures purification of high-quality nucleic acids.

MagDEA Dx SV kit

MagDEA Dx SV is a nucleic acid extraction reagent developed for use with the magLEAD 6gC and 12gC instruments. Pre-filled reagent cartridges and dedicated plastic consumables enable instrument setup with less than 10 minutes hands-on time.

The optimized protocol uses magnetic bead-based chemistry to rapidly extract and purify high quality nucleic acids with excellent reproducibility and from a range of sample types. No additional reagents are required. Each cartridge is labeled with a 2D barcode for reagent tracking. MagDEA Dx SV kits are CE-IVD marked and suitable for diagnostic applications.



Fig. 2: MagDEA Dx SV cartridges for nucleic acid purification on the magLEAD 6gC and 12gC.

Specifications

	magLEAD 6gC	magLEAD 12gC
Number of samples per run	1-6	1-12
Sample volume	200, 400, or 1000 μ L	
Elution volume	50, 100, or 200 μ L	
Process time	25 min (200 μ L), 45 min (400 μ L), 55 min (1000 μ L sample volume)	
Sample matrices	Whole blood, plasma, serum, cerebrospinal fluid (CSF), urine, swabs, sputum *, stool* [*sample pre-treatment may be required]	
Purified nucleic acids	gDNA, mRNA, viral DNA and RNA	
Extraction chemistry	magnetic bead-based	
Extraction protocol	One protocol for all sample types	
Consumables	MagDEA Dx SV kit (reagent cartridges for 200 and 400 μ L) MagDEA Dx MV kit (reagent cartridges for 1000 μ L) magLEAD Consumable kit (tips, tip holders)	
Barcode information	2D barcode on each reagent cartridge	
Reagent storage conditions	Ambient temperature	
Reagent shelf life	Up to 2 years	
Instrument functions	Internal UV lamp Optional: external bar code reader	
Instrument dimensions	H600 \times W300 \times D550 mm	H570 \times W500 \times D530 mm
Instrument weight	approx. 30 kg	approx. 50 kg



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